

**REMARKS:**

**INTERVIEW SUMMARY**

In an interview on July 24, 2006 with Attorney Joshua D. Isenberg, the Examiner discussed the Advisory Action of July 17, 2006 and proposed amendments to claim 12. Prior art reference 6,057,035 to Singh was discussed. The Examiner suggested language for amendments to claim 12 to recite that “adjacent layers of the organic polymer and the inorganic material are covalently bonded layers characterized by direct organic polymer-inorganic material covalent bonds” would overcome the prior art rejections of record. The Examiner also agreed that the proposed claim language was supported by the specification and drawings as filed. Although agreement was reached as to the claim language, the Examiner did not indicate whether the amendments would render the claims allowable.

**REQUEST FOR CONTINUED EXAMINATION**

A Request for Continued Examination (RCE) is filed herewith along with the appropriate fees. Applicant submits that entry of the above amendments is proper in view of the filing of the RCE.

**AMENDMENTS TO THE CLAIMS**

Claims 12-35 were examined. Claim 12 has been amended. Claim 36 is introduced. Support for claims 12 and 36 can be found in Figure 1 and page 7 of the application as filed. The Applicant submits that these amendments merely make explicit that which was implicit in the claims as originally filed. As such, no new matter has been entered. Furthermore, the Applicant submits that the amendments are being done to improve readability and do not represent a narrowing of any feature of the claims.

**CLAIM REJECTIONS**

**CLAIM 12 IS ALLOWABLE OVER SINGH ET AL.**

Claims 12-14, 20-21, 23-25, 27-30, and 34-35 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent 6,057,035 to Singh et al. (hereinafter Singh). In rejecting the claims, the Examiner states that Singh teaches an inorganic/organic nanolaminate film which is a barrier film having a plurality of layers of an inorganic material and a plurality of layers each consisting of an organic polymer, wherein the layers of organic polymer alternate with layers of

inorganic material, wherein adjacent layers are covalently bonded layers. The Applicant respectfully traverses the rejection.

Amended Claim 12 recites that adjacent layers of the organic polymer and the inorganic material are covalently bonded layers characterized by direct organic polymer-inorganic material covalent bonds. Singh fails to teach or suggest such a direct organic polymer-inorganic material covalent bond. In fact, Singh teaches away from such a covalent bond by using a compatibilizer agent between its polymer matrix and its inorganic material (Col. 6 lines 25-31, Figure 1C, and Col. 2, lines 47-51).

Furthermore, the invention of Claim 12 is nonobvious in view of Singh. Per MPEP 2144.004(II)(B), the omission of an element and retention of its function is an indicia of nonobviousness as set forth in *In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966). In that case the claims at issue were directed to a printed sheet having a thin layer of erasable metal bonded directly to the sheet wherein said thin layer obscured the original print until removal by erasure. The prior art disclosed a similar printed sheet which further comprised an intermediate transparent and erasure-proof protecting layer which prevented erasure of the printing when the top layer was erased. The claims were found unobvious over the prior art because although the transparent layer of the prior art was eliminated, the function of the transparent layer was retained since appellant's metal layer could be erased without erasing the printed indicia. See MPEP 2144.004(II)(B).

In the present application, claim 12, teaches the omission of a prior art element (the compatibilizer of Singh) while retaining its function (bonding between an organic polymer and inorganic material layer). The Applicant submits that the compatibilizer of Singh is analogous to the intermediate transparent and erasure-proof protecting layer of *In re Edge*. Singh's compatibilizer provides the function of bonding layers of organic polymer to inorganic material layers. Claim 12 eliminates the compatibilizer since the claimed organic polymer and inorganic material layers are directly covalently bonded. The function of the compatibilizer is retained, however, since claim 12 recites that the organic polymer and inorganic material layers are bonded to each other.

Accordingly, Applicant submits that the invention as set forth in claim 12 is both novel and nonobvious over Singh.

Applicant also notes that the Singh reference at Col. 3, lines 15-18 shows that the Si—C bond only exists in one specific embodiment, which is the organically modified layered aluminosilicate (ORMLAS) embodiment shown in Figure 1C. Singh clearly states that the silicate and surfactant are combined in a single chemical compound (Col. 2, lines 47-51). Singh also touts the advantages of having a built-in surfactant (Col. 3, lines 20-23). Accordingly, the Si—C bond cited by the Examiner is a bond between elements in the same layer (between the Si and the built-in surfactant) since the ORMLAS embodiments teaches only a single chemical compound. There is no teaching in Singh that the bonds between adjacent layers are covalent bonds. Claim 12, by contrast, clearly recites that adjacent layers of the organic polymer and the inorganic material are covalently bonded layers characterized by direct organic polymer-inorganic material covalent bonds.

Therefore, the Applicant submits that Singh does not show or suggest all the features of claim 12 and a prima facie case of anticipation is not present. Furthermore, it is submitted that Singh does not anticipate claims 13-35 by virtue of their dependence from claim 12. Accordingly, claim 12 and its dependent claims are allowable over the cited references and define an invention suitable for patent protection. New claim 36 is also allowable for substantially the same reason set forth for claim 12.

CONCLUSION

For the reasons set forth above, the Applicant submits that all claims are allowable over the cited art and define an invention suitable for patent protection. The Applicant therefore respectfully requests that the Examiner enter the amendment, reconsider the application, and issue a Notice of Allowance in the next Office Action.

Respectfully submitted,



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